

Private Applicator Exam Review



County of San Diego
Department of Agriculture,
Weights and Measures
(858) 694-8980

Overview

- ◉ Private Applicator Certificate (PAC)
- ◉ Parts of a Pesticide Label
- ◉ Mixing & Applying Pesticides
- ◉ Pesticide Exposure Risk and Symptoms
- ◉ Employer Responsibilities
- ◉ Environmental Factors
- ◉ Pesticide Label Quiz

Private Applicator Certificate

- What is a PAC and why do you need one?
 - Federal Restricted Use Pesticides
 - Eligible for California Restricted Materials Permit
 - Training
 - Pesticide handlers
 - Agricultural fieldworkers

Private Applicator Certificate

- What do you need to maintain your PAC?
 - 6 hours of continuing education completed while your PAC is valid
 - OR
 - Take the renewal exam every 3 years

Parts of the Label

- ◉ Name/Brand/Active Ingredient (AI)/Manufacturer
- ◉ Formulation
- ◉ EPA Registration Number
- ◉ Restricted Use Box

Signal Words

- **CAUTION** – slightly harmful but can still make you sick
- **WARNING** – moderately harmful
- **DANGER** – extremely harmful
 - “Danger” Pesticides are commonly required to be used in closed systems.

Parts of the Label

● Precautionary Statements

- Personal Protective Equipment (PPE) for pesticide handlers/applicators
- Hazards associated with product use (environmental, human, and routes of exposure)
- Bee warnings

Pesticide Handler

- Mix, load, or apply pesticides
- Repair or clean equipment used for pesticides
- Handle un-rinsed pesticide containers



Label PPE vs Regulation PPE

● Regulation PPE

- Protective eyewear- ANSI Z87+
- 14 mil chemical resistant gloves
- NO flocking, leather, or cloth gloves except if specified by the pesticide label.



Gloves



Leather Work
Gloves:
When mandated
by label or
working conditions
mandate it, then
they can be worn
over chemical
resistant gloves



Fabric with
rubberized
palms &
fingers:
NEVER!



Gloves
with
lining:
NEVER!



Nitrile 14 mils:
YES!

Which gloves are acceptable for pesticide use?

Parts of the Label

● Directions for Use

- Agricultural use requirements
- Worker Protection Information
- Early-Entry Worker PPE
- REI (restricted early interval)
- Storage and Disposal

Parts of the Label

● Directions for Use/ General Information

- Commodities/Site
- Target Pests
- Rate
- Plant Back Restriction Post Harvest Intervals



Parts of the Label

- Emergency/First Aid Information

- SDS/MSDS- additional information on dealing with pesticide hazards

- California Special Local Need

- Allows for additional use not listed on the label

Methods of Application

- Handheld
 - Backpack/pump sprayer, power sprayer with hose, etc.
- Ground Rig
- Aerial
- Fumigation
- Chemigation



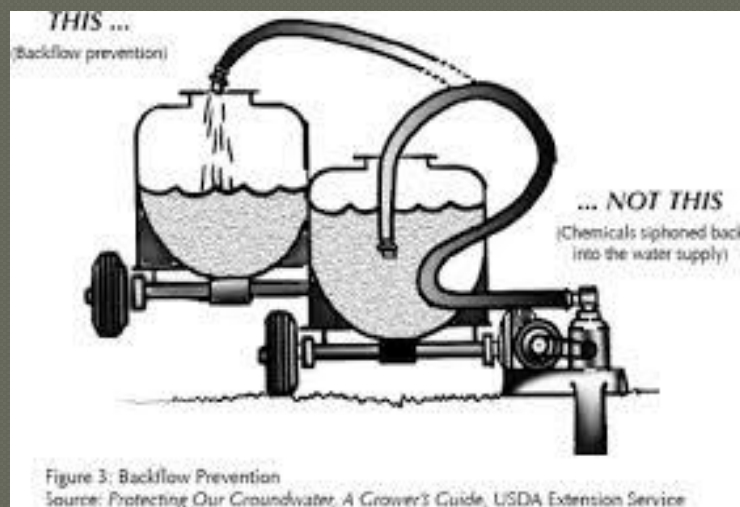
Mixing & Applying Pesticides

- Notification
 - Oral/written notification is required for all persons that may enter a treated field
 - Post the treated area
- Review the label
- PPE for mix/load vs. application
- Application site-(sensitive areas; bees foraging)
- Equipment conditions



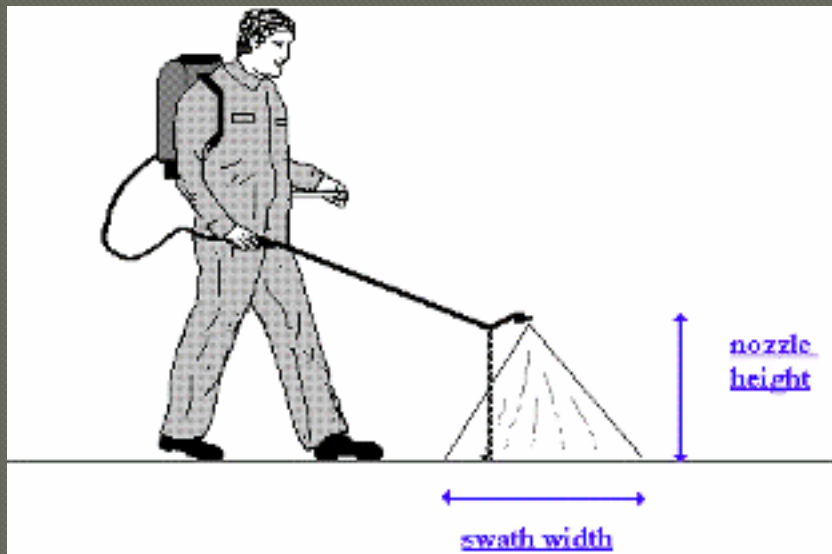
Mixing & Applying Pesticides

- Application equipment
 - Air-gap or back-flow prevention device
- Adjuvants
 - Added to the spray tank before the pesticide



Mixing & Applying Pesticides

- When applying pesticides around sensitive sites utilize buffer strips
 - Minimum buffer strip would be one spray swath



Mixing & Applying Pesticides

● Application Pattern

- Even distribution
- Eliminate the need to go through a treated area repeatedly



Mixing & Applying Pesticides

- ◉ Calibration of application equipment
- ◉ Rate of application
 - Tank capacity
 - Speed of travel
 - Combined output of the nozzles
 - Swath width



Mixing & Applying Pesticides

● Nozzles

- To double spray output volume: increase the spray pressure by a factor of 4; or change nozzle size
- Worn out nozzles- inadvertently increase the spray volume



Mixing & Applying Pesticides

- Triple rinse containers/measuring devices
 - Pour rinse solution into the spray tank
- Measuring devices
 - Proper measuring device
 - Stored in the pesticide storage
 - Calibrated to the smallest unit of measure



Mixing & Applying Pesticides

Common conversions

- 43,560 sq. ft. in 1 Acre
- 5,280 ft. in 1 mile
- 2 tablespoons in 1 ounce
- 8 pints in 1 gallon



Pesticide Exposure Risks and Symptoms

- Highest risk of pesticide occurs during a mix/load
- Store pesticides in proper containers
- Keep pesticides secure
 - Spray tanks should be locked when unattended



Pesticide Exposure Risks and Symptoms

- Exposure may be localized
 - Irritation of the eyes, skin or throat
- Symptoms may be acute or chronic
 - Acute onset- immediate onset
 - Chronic onset- symptoms may not show up weeks or months later
- Heat Illness symptoms resemble pesticide exposure symptoms
 - Tiredness, weakness, headache, nausea, dizziness, and fainting

Decontamination Facility

- Soap
- Water
- Single use towels



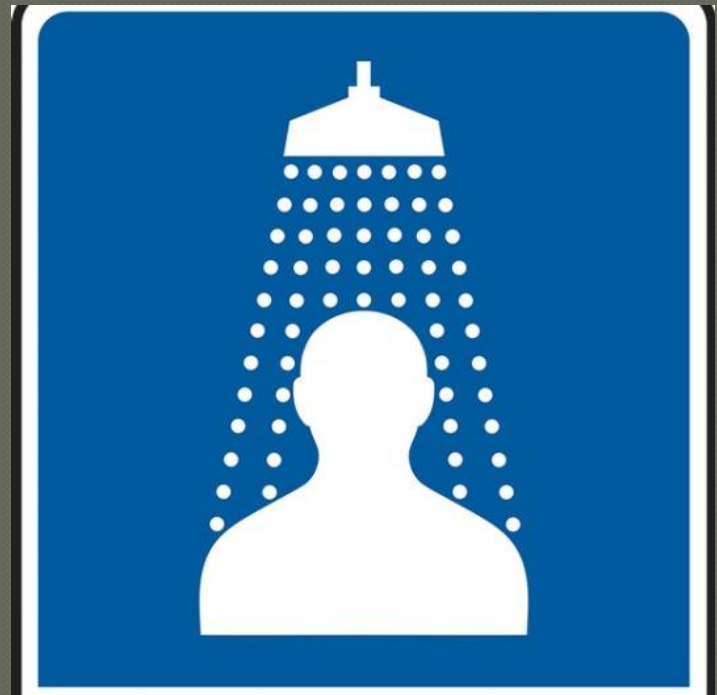
Decontamination Facility

- ◉ Where to keep it
 - Must be at mix/load site
 - Not more than $\frac{1}{4}$ mile from pesticide handlers
- ◉ Change area should also be available to employees.



Pesticide Exposure Risks and Symptoms

- At the end of the workday, pesticide handlers should shower and change into clean clothing.



Employer Responsibilities

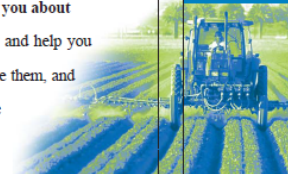
- Pesticide Safety Information Sheet (PSIS) or A-Series
 - Available in a central location.
- SDS for all pesticides used
 - Available at a central location.
- Field worker training
 - Prior to working in a treated field
 - Every 5 years (Starting Jan. 1, 2017- Req. annually)
- Pesticide handler training
 - Prior to handling pesticides
 - Every year
- Pesticide Use Reports
 - Submitted to County Ag. Commissioner monthly

Employer Responsibilities

- Employer is required to plan for emergency medical care BEFORE employees work with pesticides
- Employer must provide transportation to employees injured by pesticides

Employer Responsibilities

- Emergency Medical Care Posting
 - Name, address, telephone number for the facility
 - Must be posted in a central location
 - PSIS A-8, and A-9 postings

| Pesticide Safety Information | | CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION 1001 I Street, Sacramento, California 95814 |
|---|--|--|
| Safety Rules for Pesticide Handlers on Farms | | A No. 8 |
| <p>This leaflet, the pesticide label, and your training, tell you about pesticide dangers at work. Your employer must know and help you learn about the pesticides you will use, how to safely use them, and how to protect yourself. Pesticides are chemicals that are used to kill insects, weeds, germs and plant diseases.</p> <p>Fertilizers are not pesticides.</p> <p>Your employer must make plans for emergency medical care before you start working with pesticides. If you think that pesticides made you sick or hurt you at work, he must make sure that you are taken to the doctor right away. You do not have to pay for medical care if you get sick or hurt from pesticides at work.</p> <p>Emergency medical care is available at</p> <p>_____</p> <p>_____</p> <p>_____</p> | |  |
| <p>WHAT ARE MY RIGHTS?</p> <p>You have the right to know the following about pesticides that have been used recently where you work</p> <ul style="list-style-type: none">• when and where the pesticide was applied• the restricted entry interval (REI)• name of the pesticide and active ingredient(s)• the EPA registration number <p>When you get training your employer must tell you where all this information is kept. He must also let you see the records anytime you want without having to ask.</p> | | <p>If you think that pesticides have made you sick at work, your employer must make sure that you are taken to the doctor immediately.</p> |
| <p>EMPLOYERS: This is the hazard communication leaflet for pesticide handlers. Fill in the blank lines in this leaflet and display this handout at the employee's workplace.</p> | | <p>855-1571 Revised September 2004</p> |

Environmental Factors

● Wind

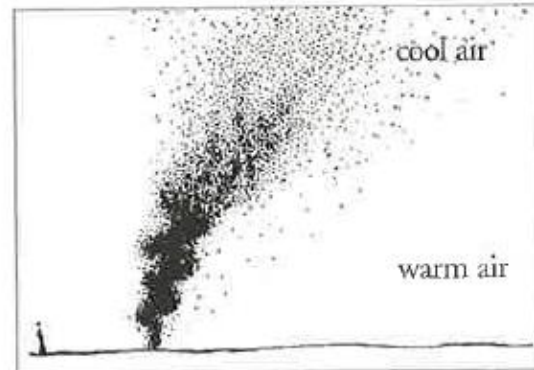
- Applying pesticides with wind greater than 5 mph can cause drift.
- Can effect the volatilization or evaporation of the pesticide.
- Can also cause uneven distribution of the pesticide.

● Temperature

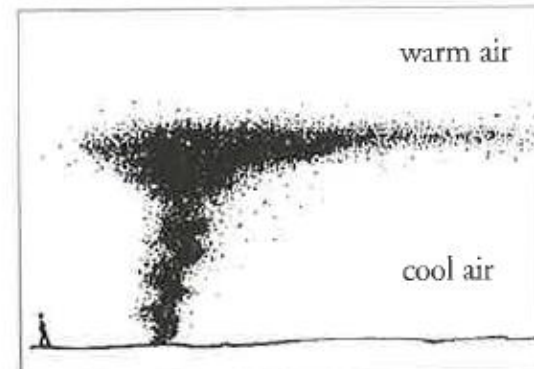
- Affects phytotoxicity of some pesticides
 - Many pesticides break down or volatilize quickly in high temperatures or by ultra violet light on clear sunny day
-
- To reduce residues use pesticides that break down rapidly

Environmental Factors

- **Temperature Inversion**
 - Occurs when the air 20 to 100 feet above the ground is warmer than the air below it. The warm air locks in air preventing it from moving vertically.
 - Can cause pesticide vapor to be trapped. Instead of dissipating into the atmosphere the vapor becomes trapped and tends to move as a cloud.



NORMAL CONDITION—
SMOKE RISES AND DISPERSES



INVERSION CONDITION—
SMOKE CONCENTRATES

Figure 2-8. Temperature inversions can cause serious offsite movement of pesticides.

Environmental Factors

- Rain, Fog and Dew
 - Can wash pesticides off treated surfaces and into the soil causing possible ground water and surface water contamination.
 - Heavy rains or irrigation run-off can also carry pesticides away from the application site.
- Nonpoint pollution- pollution that occurs from the normal use of a pesticide over a large area over an extended period of time.
- Point pollution- when large amounts of pesticides leach into the soil at specific points such as: mix/load sites, pesticide spill sites, or storage sites

Environmental Factors

- Drift- movement of pesticides from the treatment area
 - Likely to occur under windy conditions while using a high pressure and small nozzle. Droplets may be carried away to non-target areas.
 - Pesticides may also volatilize and drift away from the target area.
- Bees
 - Temperatures are not as suitable to foraging bees generally early in the morning or late in the day.

Environmental Factors

- **Beneficials**- Plants or insects that are helpful in some way.
- **Secondary pests**- pest that becomes a problem after the treatment of the initial pest
- **Natural Enemy**- Organism that causes premature death of a pest.
- **Non-target organisms**- Animals or plants within a treated area not intended to be controlled by the pesticide application

We are here to help!

Today was just a brief explanation of things. If you have any questions or concerns please contact us and we will work with you to ensure you are in compliance.

San Diego County Department of Agriculture Pesticide Regulation Program

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Two office locations to serve you.

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